

Remarks / Arguments

Claims 1-11 were presented for examination. The Office objected to Claim 11, and rejected Claims 1-11. Claims 1, 9, and 11 are herein amended, Claim 2 is cancelled.

Specification

The Office objected to the disclosure because the word “tyres” on page 1, in lines 12, 25, and 28 should be “tires.” In response, pages 2 and 3 of this communication present a list of instructions — submitted in accordance with 37 C.F.R. § 1.121(b)(1) — to replace the paragraph bearing the header “2. Prior art” and constituting lines 11-21 of page 1, and to replace the paragraph which begins at page 1, line 23 and ends at page 2, line 2, with the respective replacement paragraphs provided above. As required, each paragraph to be replaced is unambiguously identified and the full text of the replacement paragraph is submitted with markings to show all the changes relative to the previous version of the paragraph. Specifically, the paragraph bearing the header “2. Prior art” and constituting lines 11-21 of page 1 has been amended to change the word “tyres” (at line 12) to “tires,” the word “sheated” (at line 13) to “sheathed,” and the word “incomfortable” (at line 17) to “uncomfortable.” Also specifically, the paragraph which begins at page 1, line 23 and ends at page 2, line 2 has been amended to change the word “tyres” (at line 25 and again at line 28) to “tires.”

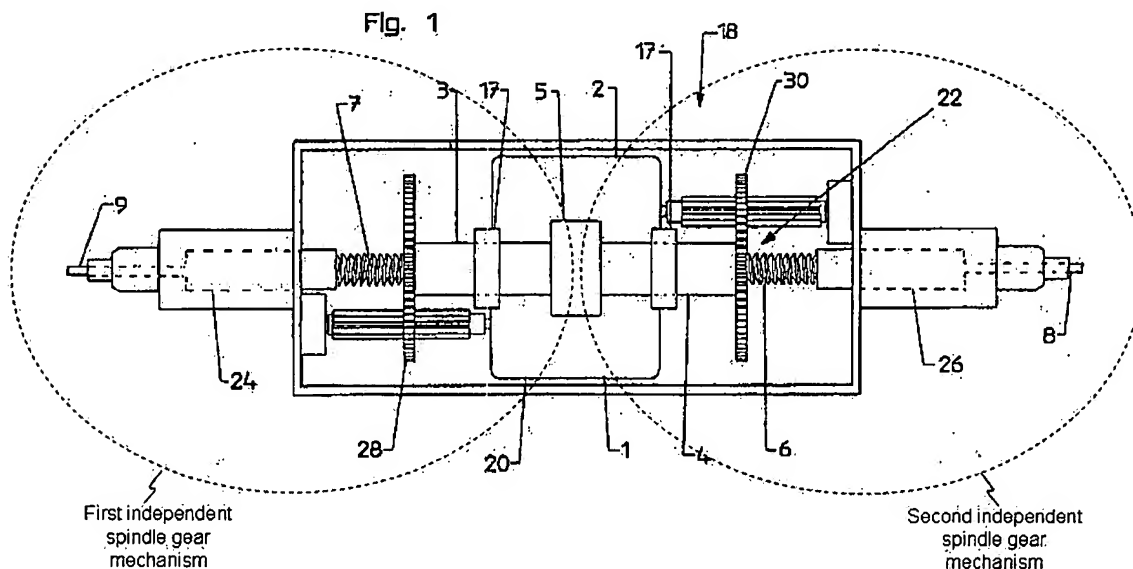
35 U.S.C. § 112

Claim 11 was objected to for reciting the limitation “the velocity” in line 4 of the claim, there being insufficient antecedent basis for this limitation in the claim. In response, Claim 11 has been amended to more clearly point out the present invention.

35 U.S.C. § 102(b)

Claims 1-11 were rejected under 35 U.S.C. § 102(b) as being anticipated by Carmelo *et al.* (DE 19829514). The Office stated that Carmelo *et al.* discloses an operating mechanism (FIG. 1, (18)) for actuating at least one parking brake, particularly for motor vehicles, comprising: a first driving unit (FIG. 1, (1)) for driving a first actuating element (FIG. 1, (28)); and a second driving unit (FIG. 1, (2)) for driving a second actuating element (FIG.1, (30)), characterized in that the second actuating element engages said first actuating element in order to cause a relative movement of the first actuating element with respect to the second actuating element in order to tighten or to release at least one braking cable (FIG. 1, (8) & (9)) for actuating of the at least one parking brake.

FIG. 1 of Carmelo *et al.* shows an actuation element for a parking brake which comprises two independent spindle gears which can independently be driven by two separate actuation elements.

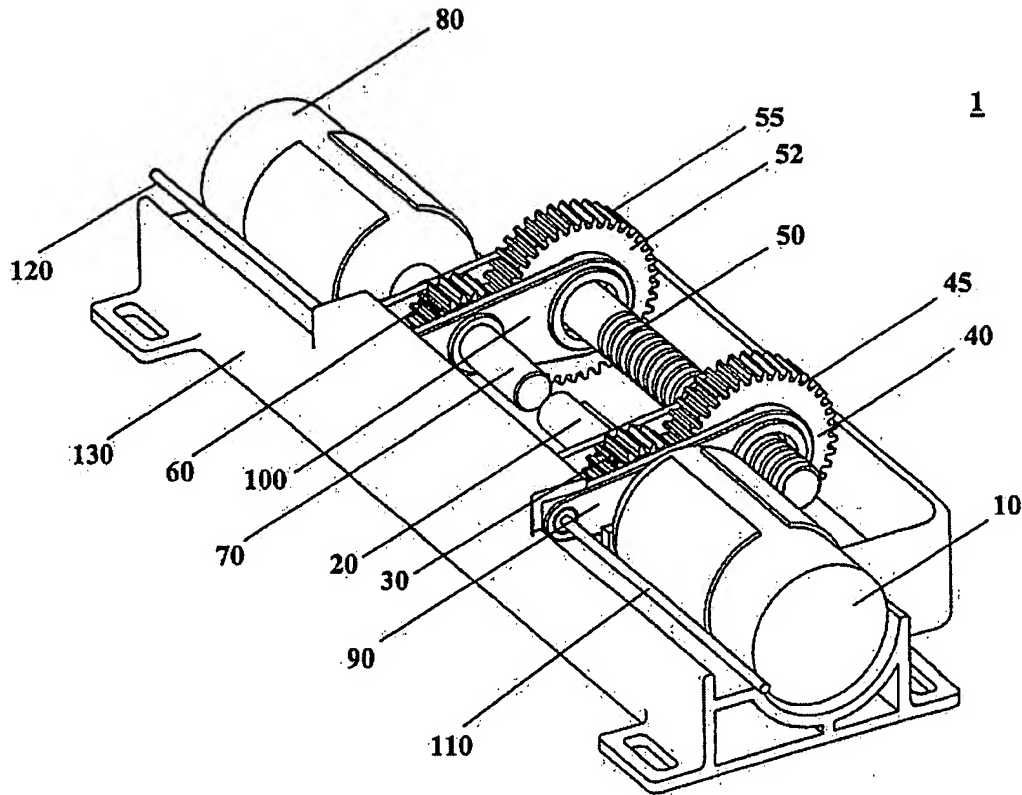


Carmelo *et al.*, DE 19829514, FIG. 1 (emphasis added).

The first spindle gear mechanism consists of an electric motor (1) driving a wheel gearing (28) connected to a nut (3) (*i.e.*, hollow shaft (3)), whereby a spindle (7) is screwed into or out of the nut (3). The second spindle gear mechanism consists correspondingly of a second electric motor (2) driving a second wheel gearing (30) that drives a nut (4), whereby a second spindle (6) is screwed into or out of said nut (4). By means of coupling element (5) the two nuts (3, 4) can be rotated relative to each other, but are axially fixed with respect to each other. In this way it is possible to compensate, for example, for an unbalanced pull of the two braking cables (8, 9). Moreover, the two electric motors (1, 2) may be activated independently from each other, and each motor can supply a sufficient braking force to compensate a failure or malfunction of the other motor.

A disadvantage of the mechanism disclosed by Carmelo *et al.*, however, is that while it allows a fast activation and release of the brake by means of two motors (1, 2), it does not allow a particular slow release of the brake. If both motors act at the same time, a fast activation and release can be achieved because both braking cables (8, 9) are pulled at the same time. The slowest release rate of the brake is, however, determined by the slowest working speed of the motors.

The present invention, in accord with Claims 1 and 9 above, solves the aforementioned disadvantage of Carmelo *et al.* by providing an actuating mechanism having two actuating elements in the form of a spindle and a gear in engagement with one another, which may be activated independently from one another, thus providing the possibility of a reduction gear. The function of the mechanism of the present invention can best be understood from considering the figures of the present invention.



Present invention, FIG. 1.

In FIG. 1 of the present invention (above), the components associated with shaft connection (20) are driving pinion (30), nut (40), outer gearing (45), spindle (50), support body (90), and braking cable (110), while the components associated with shaft connection (70) are driving pinion (60), driving wheel (52), outer gearing (55), support body (100), and braking cable (120). The components associated with shaft connection (20) and the components associated with shaft connection (70) may be moved axially together or apart from each other, thereby activating or releasing the brakes via braking cables (110, 120). The first motor (80) rotates spindle (50) via gear wheels (60) and (55). The spindle (50) may be screwed into or out of nut (40), depending on the rotation direction. If, for example, spindle (50) is turned into nut (40), both shaft connections (the components associated with shaft connection (20) and the components associated with shaft connection (70)) are moved towards each other and the brake

is activated. If the nut (40) is turned at the same time counter to the rotating direction of spindle (50), the speed of axial movement of the shaft connections (the components associated with shaft connection (20) and the components associated with shaft connection (70)) is increased. If, on the other hand, nut (40) is rotated in the same rotating direction as spindle (50), the movement of the shaft connections is slowed down. In fact, if both spindle and nut rotate with the same speed and in the same direction, no relative axial movement of the shaft connections will occur at all. By means of a suitable adjustment of the respective rotational speeds and directions of spindle and nut, a very slow and thereby controlled release of the brake can be achieved.

This difference between the mechanism of the present invention and the mechanism disclosed by Carmelo *et al.* is described, for example, in paragraph [0043] of the present application as-filed: "If the parking brake should be actuated slowly and sensitively, the driving motors of the present invention run with the same rotation direction but different rotational speed." When considering FIGS. 1 and 2 of Carmelo *et al.*, it is obvious that such a function is not possible with the mechanism of Carmelo *et al.* Carmelo *et al.* does not disclose first and second actuating elements being in engagement with each other within the meaning of amended Claims 1 or 9, *i.e.*, of first and second actuating elements configured as nut and spindle, respectively, wherein the spindle is screwed into the nut. Accordingly, the mechanism of Carmelo *et al.* does not provide the function of a reduction gear and the actuating elements are not configured as nut and spindle in the sense of the present invention.

In summary, the teaching of Carmelo *et al.* neither discloses nor suggests the inventive concept of first and second actuating elements configured as nut and spindle, which engage each other and the advantages associated therewith. Thus, Carmelo *et al.* does not show recognition of Applicant's device. Claims 3-8 depend from Claim 1, which should be allowable in form, and

Claims 10-11 depend from amended Claim 9, which should be allowable in form. Therefore, Claims 1-11 as presented herein should be allowable in form.

In commenting on the references and in order to facilitate a better understanding of the differences that are expressed in the claims, certain details of distinction between same and the present invention have been mentioned, even though such differences do not appear in all of the claims. It is not intended by mentioning any such unclaimed distinctions to create any implied limitations in the claims. Not all of the distinctions between the prior art and applicant's present invention have been made by Applicant. For the foregoing reasons, Applicant reserves the right to submit additional evidence showing the distinction between Applicant's invention to be unobvious in view of the prior art.

The foregoing remarks are intended to assist the Office in examining the application and in the course of explanation may employ shortened or more specific or variant descriptions of some of the claim language. Such descriptions are not intended to limit the scope of the claims; the actual claim language should be considered in each case. Furthermore, the remarks are not to be considered to be exhaustive of the facets of the invention which are rendered patentable, being only examples of certain advantageous features and differences which applicant's attorney chooses to mention at this time.

Reconsideration of the application as amended and allowance thereof is requested.

The Commissioner is authorized to charge any fees due in association with this filing to Deposit Account No. 50-2413 of Adams and Reese LLP. The Commissioner is further authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-2413 of Adams and Reese LLP.

Respectfully submitted,
ADAMS AND REESE LLP

Date: NOVEMBER 15, 2007

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